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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/575,020

04/07/2006

Pierre Barberis

12467/9

7053

23280 7590 10/09/2009  
Davidson, Davidson & Kappel, LLC  
485 7th Avenue  
14th Floor  
New York, NY 10018

EXAMINER

ZHU, WEIPING

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

10/09/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,020	<b>Applicant(s)</b> BARBERIS ET AL.	
	<b>Examiner</b> WEIPING ZHU	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8,9,11,15,16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8, 9, 11, 15, 16, and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 27, 2009 has been entered.

### ***Status of Claims***

2. Claims 8, 9, 11, 15, 16, and 18 are currently under examination wherein claims 8 and 15 have been amended in applicant's amendment filed on July 27, 2009.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8, 9, 11, 15, 16, and 18 are rejected under 35 U.S.C. 103(a) as unpatentable over Diz et al. (US 6,544,361 B1).

With respect to claims 8, 9, 15 and 16, Diz et al. ('361 B1) discloses a process for producing a flat product made of a zirconium alloy having Kearns factors of between 0.09 and 0.68 (col. 5, lines 6-9) comprising (col. 3, line 5 to col. 5, line 35):

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casting an ingot having a composition comprising in percentages by weight of: 0.8-1.3% of Nb; less than 300 ppm of Sn; less than 0.25% of the total content of Fe, Cr and V; 10-35 ppm of S; 1100-1800 ppm of O; less than 120 ppm of Si; and a balance of Zr and inevitable impurities (col. 1, lines 43-62 and Table 1);

performing on the ingot at least one hot-rolling, a final hot rolling pass being carried out between 770-790 °C and not being followed by any quenching operation;

optionally annealing the flat product not exceeding a temperature of 560 °C (example 3 includes this step while examples 1 and 2 do not include this step); and

performing at least one cold-rolling/annealing cycle wherein the annealing cycle does not occur above 710 °C.

The alloy composition and the annealing temperatures of Diz et al. ('361 B1) overlap the claimed ranges respectively. A prima facie case of obviousness exists. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed ranges within the disclosed ranges of Diz et al. ('361 B1) with expected success, because Diz et al. ('361 B1) discloses the same utility over the entire disclosed ranges.

Diz et al. ('361 B1) does not disclose the final hot rolling temperature range as claimed in the instant claims 8 and 15. However, it is well held that discovering an optimum value of a result-effective variable involves only routine skill in the art. In re Boesch, 617, F.2d 272, 205 USPQ 215 (CCPA 1980). In the instant case, the final hot rolling temperature is a result-effective variable, because it would directly affect the final microstructure and size of the blank of Diz et al. ('361 B1) prepared for the following

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process steps as disclosed by Diz et al. ('361 B1) (col. 1, lines 6-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the final hot rolling temperature of Diz et al. ('361 B1) in order to achieve the desired microstructures and sizes as required. See MPEP 2144.05 II.

Diz et al. ('361 B1) does not disclose the Kearns Factor FT as claimed. However, it has been held where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established see *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977), MPEP 2112.01 [R-3] I. In the instant case, the claimed and Diz et al. ('361 B1)'s flat zirconium alloy products are identical or substantially identical in composition and are produced by identical or substantially identical processes as discussed above, therefore a prima facie case of obviousness exists. The same Kearns Factor FT as claimed in instant claims 8 and 15 would be expected in the flat zirconium alloy product of Diz et al. ('361 B1).

With respect to claims 11 and 18, the highest hot-rolling temperature of 790 °C as disclosed by Diz et al. ('361 B1) (col. 4, line 53) appears to be close to the claimed lowest hot-rolling temperature of  $\alpha + \beta \rightarrow \beta$  transition temperature - 130 °C. Therefore, a prima facie case of obviousness exists between the prior art and the claimed invention. One of ordinary skill in the art would expect the same results from these hot rolling temperatures.

### ***Response to Arguments***

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4. The applicant's arguments filed on July 27, 2009 have been fully considered but they are not persuasive.

The applicant argues that Diz et al. ('361 B1) does not teach the amended features in instant claims 8 and 15. In response, see the reasons for the rejections of the amended features in instant claims 8 and 15 as discussed in above.

### ***Conclusions***

5. This Office action is made non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Roy King/  
Supervisory Patent Examiner, Art  
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WZ

8/7/2009